Project Description:

Deploy a simple web application on AWS using EC2 instances, ensuring high availability and scalability with Elastic Load Balancing (ALB) and Auto Scaling Groups (ASG). The project demonstrates best practices for compute scalability, security, and cost optimization.

Key AWS Services Used:

- **EC2:** Launch and run instances for the web app.
- **Application Load Balancer (ALB):** Distributes traffic across multiple instances.
- **Auto Scaling Group (ASG):** Ensures instances scale based on demand.
- **Amazon RDS:** Backend database (MySQL/PostgreSQL) with Multi-AZ .
- **IAM:** Role-based access to instances for security.
- **CloudWatch & SNS:** Monitor performance and send alerts.

Major Benefits:

- **High Availability:** Utilize ALB and ASG to ensure zero downtime.
- **Scalability:** Automatically scale resources based on demand to maintain optimal performance.
- **Security:** Implement IAM for managing permissions and ensuring security.

AWS Cloud

AWS Account

VPC

Region

Availability Zone

Availability Zone

Public subnet

Public subnet

172.16.0.0
172.16.1.0
172.16.2.0

Auto Scaling group

Web Tier

Private subnet

Private subnet

Auto Scaling group

App tier

Private subnet

Private subnet

RDS Standby

RDS Master

Client

Admin

Gmail